60815pct.ST25 SEQUENCE LISTING

<110> THERAPTOSIS S.A. <120> METHOD FOR SCREENING MODULATORS OF MITOCHONDRIAL FUCTIONNING AND NEW MODULATORS OBTAINED <130> 60815PCT <140> PCT/EP03/12056 <141> 2003-10-02 <150> us 60/472,725 <151> 2003-05-23 <150> US 60/415/092 <151> 2002-10-02

<170> PatentIn version 3.1

57

<210> 1

<160>

- <211> 16
- <212> PRT
- <213> Artificial
- <400> 1

Ala Thr Leu Ser Ala Leu Leu Ala Ala Leu Arg Arg Ile Gln Arg Ala 10 15

- <210> 2 ·
- <211> 27
- <212> PRT
- <213> Artificial

<400> 2

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Ala Thr Leu Ser Ala 1 5 10 15

Leu Leu Ala Ala Leu Arg Arg Ile Gln Arg Ala 20 25

<210> 3

<211> 40

<212> PRT

<213> Artificial

<400> 3

Arg Lys Lys Arg Arg Gln Arg Arg Cys Gly Gly Leu Glu Thr Arg 1 5 10 15

Thr Glu Thr Trp Met Ser Ser Glu Gly Ala Trp Lys Gln Ile Gln Lys 20 25 30

Val Glu Thr Trp Ala Leu Arg His 35 40

<210> 4

<211> 40

<212> PRT

<213> Artificial

<400> 4

Lys Gly Ala Trp Leu Asp Ser Thr Lys Ala Thr Arg Tyr Leu Val Lys 20 25 30

Thr Glu Ser Trp Ile Leu Arg Asn 35 40

<210> 5

<211> 28

<212> PRT

<213> Artificial

```
<220> -
<221>
       DISULFID
<222>
       (3)..(10)
<223>
<400>
Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Leu Leu Phe Ile 1 10 15
His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly 20 25
<210>
<211>
<212> PRT
<213> Artificial
<400>
Arg Ile Glu Ile Trp Ile Leu Arg His 1
<210>
<211>
<212> PRT
<213> Artificial
<400> 7
Arg Ile Ala Ile Trp Ile Leu Arg His 1
<210>
<211>
       20
```

<213> Artificial

<400> 8

PRT

<212>

Arg Lys Lys Arg Arg Gln Arg Arg Arg Gly Gly Arg Ile Glu Ile Trp $1 \hspace{1cm} 10 \hspace{1cm} 15$

Ile Leu Arg His 20

<210> 9

<211> 20

<212> PRT

<213> Artificial

<400> 9

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Arg Ile Ala Ile Trp 5 10 15

Ile Leu Arg His 20

<210> 10

<211> 28

<212> PRT

<213> Artificial

<400> 10

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile $1 \ \ \, 10 \ \ \, 15$

His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly 20 25

<210> 11

<211> 31

<212> PRT

<213> Artificial

<400> 11

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Leu 10 15

Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg Ile Gly 20 25 30

<210> 12

<211> 27

<212> PRT

<213> Artificial

<400> 12

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys His 1 10 15

Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His 20 25

<210> 13

<211> 27

<212> PRT

<213> Artificial

<400> 13

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys His 10 15

Ala Gln Arg Ile Glu Thr Trp Ile Leu Arg His
20 25

<210> 14

<211> 27

<212> PRT

<213> Artificial

<400> 14

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys His 10 15

Ala Gln Arg Val Glu Ser Trp Ile Leu Arg Asn 20 25

<210> 15

<211> 27

<212> PRT

<213> Artificial

<400> 15

Ala Cys Arg Met Glu Thr Trp Ile Leu Arg His 20 25

<210> 16

<211> 27

<212> PRT

<213> Artificial

<400> 16

Ile Gln Lys Val Glu Thr Trp Ala Leu Arg His 20 25

<210> 17

<211> 27

<212> PRT

<213> Artificial

<400> 17

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Arg Gln 10 15

Val Glu Lys Val Glu Thr Trp Ala Leu Arg His 20 25

<210> 18

<211> 27

<212> PRT

<213> Artificial

<400> 18

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys His 1 10 15

Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His 20 25

```
<400>
Ala Trp Lys His Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His 10 \hspace{1.5cm} 15
<210>
        20
<211>
        21
<212>
        PRT
<213>
        Artificial
<220>
<221>
        DISULFID
<222>
        (3)..(10)
<223>
<400> 20
Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Arg Ile Glu Ile 1 \ 5 \ 10 \ 15
Trp Ile Leu Arg His 20
<210>
        21
<211>
        21
<212>
        PRT
<213>
        Artificial
<220>
<221>
        DISULFID
<222>
        (3)..(10)
<223>
<400>
        21
```

<210>

<211>

<212>

<213>

19

15

PRT

Artificial

Trp Ile Leu Arg His 20

- <210> 22
- <211> 22
- <212> PRT
- <213> Artificial
- <220>
- <221> DISULFID
- <222> (3)..(11)
- <223>
- <400> 22

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Glu 10 15

Ile Trp Ile Leu Arg His 20

- <210> 23
- <211> 22
- <212> PRT
- <213> Artificial
- <220>
- <221> DISULFID
- <222> (3)..(11)
- <223>
- <400> 23

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Ala 1 1 15

Ile Trp Ile Leu Arg His 20

```
<210>
         24
         21
 <211>
 <212>
        PRT
<213> Artificial
 <400>
        24
 Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Glu Ile 10 \ 10
 Trp Ile Leu Arg His 20
 <210>
        25
 <211>
         21
```

<212> PRT

<213> Artificial

<400> 25

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Ala Ile $10 \ 15$

Trp Ile Leu Arg His 20

<210> 26

<211> 24

<212> PRT

<213> Artificial

<400> 26

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Arg 10 15

Ile Glu Ile Trp Ile Leu Arg His 20

<210> 27

<211> 24

<212> PRT

<213> Artificial

<400> 27

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Arg
1 5 10 15

Ile Ala Ile Trp Ile Leu Arg His 20

<210> 28

<211> 31

<212> PRT

<213> Artificial

<400> 28

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Gly 10 15

Ala Trp Lys His Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His 20 25 30

<210> 29

<211> 31

<212> PRT

<213> Artificial

<400> 29

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Gly 10 15

Ala Trp Lys His Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His 20 25 30

<210> 30

<211> 28

<212> PRT

<213> Artificial

<400> 30

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile $10 \ 15$

His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly 20 25

<210> 31

<211> 31

<212> PRT

<213> Artificial

<400> 31

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Leu 10 15

Leu Phe Ile His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly 20 25 30

<210> 32

<211> 28

<212> PRT

<213> Artificial

<400> 32

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile 5 10 15

His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly
20 25

<210> 33

<211> 31

<212> PRT

<213> Artificial

<400> 33

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Leu 10 15

Leu Phe Ile His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly 20 25 30

<210> 34

<211> 28

<212> PRT

<213> Artificial

<400> 34

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile $10 \ 15$

His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly 20 25

<210> 35

<211> 31

<212> PRT

<213> Artificial

<400> 35

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Leu 10 15

Leu Phe Ile His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly 20 25 30

<210> 36

<211> 27

<212> PRT

<213> 'Artificial

<400> 36

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys His 10 15

Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His 20 25

<210> 37

<211> 27

<212> PRT

<213> Artificial

<400> 37

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys His 10 15

Ala Gln Arg Ile Glu Thr Trp Ile Leu Arg His
20 25

<210> 38

<211> 27

<212> PRT

<213> Artificial

<400> 38

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys His 10 15

Ala Gln Arg Val Glu Ser Trp Ile Leu Arg Asn 20 25

<210> 39

<211> 27

<212> PRT

<213> Artificial

<400> 39

Ala Cys Arg Met Glu Thr Trp Ile Leu Arg His 20 25

<210> 40

<211> 27

<212> PRT

<213> Artificial

<400> 40

Arg Lys Lys Arg Arg Gln Arg Arg Gly Gly Gly Ala Trp Lys Gln
1 10 15

Ile Gln Lys Val Glu Thr Trp Ala Leu Arg His 20 25

```
<210> 41
```

<211> 27

<212> PRT

<213> Artificial

<400> 41

Val Glu Lys Val Glu Thr Trp Ala Leu Arg His 20 25

<210> 42

<211> 21

<212> PRT

<213> Artificial

<400> 42

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Glu Ile $10 \ 15$

Trp Ile Leu Arg His 20

<210> 43

<211> 21

<212> PRT

<213> Artificial

<400> 43

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Arg Ile Ala Ile 10 15

Trp Ile Leu Arg His 20

<210> 44

<211> 24

<212> PRT

<213> Artificial

<400> 44

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Arg
1 10 15

Ile Glu Ile Trp Ile Leu Arg His 20

<210> 45

<211> 24

<212> PRT

<213> Artificial

<400> 45

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Arg 10 15

Ile Ala Ile Trp Ile Leu Arg His 20

<210> 46

<211> 31

<212> PRT

<213> Artificial

<400> 46

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Gly 10 15

Ala Trp Lys His Ala Gln Arg Ile Glu Ile Trp Ile Leu Arg His 20 25 30

<210> 47

<211> 31

<212> PRT

<213> Artificial

<400> 47

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Gly Ser Gly 10 15

Ala Trp Lys His Ala Gln Arg Ile Ala Ile Trp Ile Leu Arg His 20 25 30

<210> 48

<211> 28

<212> PRT

<213> Artificial

<400> 48

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile $5 \hspace{1cm} 10 \hspace{1cm} 15$

His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly 20 25

<210> 49

<211> 31

<212> PRT

<213> Artificial

<400> 49

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Leu 10 15

Leu Phe Ile His Phe Lys Ile Gly Cys Lys His Ser Lys Ile Gly 20 25 30

<210> 50

<211> 28

<212> PRT

<213> Artificial

<400> 50

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile 1 5 10 15

His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly 20 25

<210> 51

<211> 31

<212> PRT

<213> Artificial

<400> 51

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Leu 10 15

Leu Phe Ile His Phe Arg Ile Gly Ser Arg His Ser Arg Ile Gly 20 30

<210> 52

<211> 28

<212> PRT

<213> Artificial

<400> 52

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Leu Leu Phe Ile $10 \ 15$

His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly 20 25

<210> 53

<211> 31

<212> PRT

<213> Artificial

<400> 53

Glu His Trp Ser Tyr Trp Leu Arg Pro Gly Gly Gly Gly Ser Leu 10 15

Leu Phe Ile His Phe Lys Ile Gly Ser Lys His Ser Lys Ile Gly 20 25 30

<210> 54

<211> 21

<212> PRT

<213> Artificial

<220>

```
<221> DISULFID
```

<223>

<400> 54

Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Arg Ile Glu Ile $10 \ \ \, 10$

Trp Ile Leu Arg His 20

<210> 55

<211> 21

<212> PRT

<213> Artificial

<220>

<221> DISULFID

<222> (3)..(10)

<223>

<400> 55

Gly Gly Cys Arg Gly Asp Met Phe Gly Cys Gly Gly Arg Ile Ala Ile $1 \hspace{1cm} 10 \hspace{1cm} 15$

Trp Ile Leu Arg His 20

<210> 56

<211> 22

<212> PRT

<213> Artificial

<220>

<221> DISULFID

<222> (3)..(11)

<223>

<400> 56

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Glu 10 15

Ile Trp Ile Leu Arg His 20

<210> 57

<211> 22

<212> PRT

<213> Artificial

<220>

<221> DISULFID

<222> (3)..(11)

<223>

<400> 57

Gly Gly Cys Gly Arg Gly Asp Ser Pro Gly Cys Gly Gly Arg Ile Ala $1 \ \ \,$ 15

Ile Trp Ile Leu Arg His 20